

FROMZEL' N. I.

USSR/Chemical Technology - Chemical Products and Their I-9
Application. Wood Chemistry Products. Hydrolysis Industry

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2675

Author : Fromzel', N.I., Alkunovich, E.B.

Inst :

Title : We Must Establish an Extensive Production of Vinasse
Concentrates.

Orig Pub : Gidroliznaya i lesokhim. prom-st', 1957, No 5, 27-28

Abstract : Branches of the national economy are set forth, in which
use is made of vinasse concentrates, and it is recommen-
ded to establish installations for a composite utiliza-
tion of the liquor of the operating sulfite-cellulose
plants.

Card 1/1

RUMANIA

Veterinarian Gh. OLTEANU and Candidate of Veterinary and Medical Science V. FROMUNDA, Veterinary Research and Immunotherapy Institute (Institutul de cercetari veterinare si biopreparate) "Pasteur" and Dr A. STOENESCU, Experimental Veterinary Station (Statia experimentală Veterinara) of same Institute in Iassi.

"Ovine Anoplocephalosis and its Treatment in Our Country."

Bucharest, Revista de Zootehnie si Medicina Veterinara, Vol 13, No 5, May 63; pp 53-59.

Abstract [English summary modified]: Comprehensive data regarding the epizootiology and other clinical characteristics of this ovine parasitosis in Rumania. *Moniezia expansa* and *M. benedeni* are most frequent and most pathogenic species involved. Copper salts have some effect in prevention and therapy. Seasonal rhythm is clear; age and strain susceptibility vary predictably. Graph; Two Soviet and 6 Rumanian references.

1/1

FRON, Zygmunt

Selection of the economical diameter of a pipeline. Problem
proj hut maszyn 10 no.7:209-210 J1 '62.

1. Bipromet, Katowice.

FROM, Z

An analysis of the performance of venturitubes placed in installations for cleaning blast-furnace gas. p. 13.

HUTNIK. (Panstwowe Wydawnictwa Techniczne) Katowice, Poland.
Vol. 26, no. 1, 1959

Monthly list of East European Accession (EEAI) LC, Vol. 8 no. 7, July 1959

Uncl.

FRON, Zygmunt, mgr inz.

Economic analysis of the selection of dedusting installations.
Rudy i metale 7 no.11:521-525 N '62.

L 16159-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/PS-4 WW/RM
ACCESSION NR: AP4046128 S/0068/64/000/009/0040/0044

AUTHOR: Fronchek, K.; Tencha, T.; Polyachek, Ye. P 6

TITLE: Copolymerization of unsaturated hydrocarbons of the indenecoumarone
fraction by means of sulfuric acid 15

SOURCE: Koks i khimiya, no. 9, 1964, 40-44

TOPIC TAGS: indene coumarone crude, heavy naphtha, coal tar fraction, couma-
rone indene copolymerization, sulfuric acid copolymerization catalyst, prepoly-
merization, dicyclopentadiene

ABSTRACT: The feasibility and economics of using the 150-200C indene-couma-
rone fraction obtained from the phenol fraction from coal or from heavy naphtha as
the crude for resin preparation by sulfuric acid catalysed copolymerization was
investigated. The monomer content in the crudes from the two sources was simi-
lar except for the styrene whose content in the heavy naphtha crude was about
four times that in the coal-phenol fraction: indene comprised over 50% of the total

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L 16159-65

ACCESSION NR: AP4046128

polymerisable material, coumarone over 25%, styrene 10 and 2.5%, and the methylindene and methylcoumarone homologs the balance. It was shown that high grade resins could be obtained in yields well above 80% from this raw material although the reactivity of the unsaturated compounds in the copolymerization differed somewhat. Indene and its methyl homolog were the most reactive; the methyl groups in the indene and coumarone lowered their reactivity slightly. Styrene lowered the softening point of the resin (10% styrene lowered the softening point 30 degrees); simultaneously increased resin yield and did not affect resin color. When a high softening point was required it was necessary to use a styrene-free fraction boiling above 160C, preferably the indene fraction (176-181C). Separation of the indene and coumarone methyl homologs was not necessary since they did not affect the softening point or lower resin color stability. If the fraction did not contain dicyclopentadiene prepolymerization was not necessary; it only caused loss of the indene. Orig. art. has: 2 figures and 5 tables.

ASSOCIATION: Pol'sha, Blyakhovna, Institut osnovnogo organicheskogo sinteza
(Institute of Basic Organic Synthesis)

Card 2/3

L 16159-65

ACCESSION NR: AP4046128

SUBMITTED: 00

ENCL: 00

SUB CODE: GC, OC

NO REF SOV: 002

OTHER: 009

Cord 3/3

FRONCZAK, Wacław

46th Session of the International Labor Conference. Praca zabezp spol
4 no.11:39-45 N '62.

FRONCZAK, Wacław

From the activities of the International Labor Organization in
1963. Praca zabezp spol 6 no.9:26-28 S '64.

USSR / General Problems of Pathology. Experimental Therapy. U-5

Abs Jour : Ref Zhur - Biol., No 10, 1958, No 46894

Author : Teodorescu, P.; Fronza, Nadia; Iliescu, V.

Inst : Not given

Title : Clinical Uses of Triethylenmelamina (TEM)

Orig Pub : Vinta med., 1956, 3, No 11, 19-28

Abstract : Three cases of successful lymphagranulomatosis (Hodg-kin's disease) treatment are reported by using the TEM compound (2-4 mg daily internally). During the course of the disease the patients received 15-20 mg of TEM, and after 10-15 days the treatment was repeated. Complications (leukopenia) occurred more often in cases of repeated therapy, and in patients with lowered acidity or with achlohydria. In these cases blood transfusions as well as intake of vitamins C and B₁₂, antibiotics and cortisone preparations are recommended. Children tolerate treatment with TEM well.

Card 1/1

TEODORESCU, P.; BERCOVICI, S.; FROMDA, Nadia

Hepato-biliary repercussions of hepatic hydatidosis. Med. int., Bucur.
9 no.8:1246-1259 Aug 57.

1. Lucrare efectuata in Clinica a VI-a medicala I.M.F. si Spitalul
"Cantacuzino".

(LIVER DISEASES

echinococcosis, causing obstruct. dyskinesia, lithiasis &
other disord. of biliary tract)

(BILIARY TRACT, DIS.

dyskinesia, lithiasis, obstruct. & other disord. caused
by hepatic echinococcosis)

FRONEK, A.; KACER, A.

Apparatus for reproduction of cardiac phenomena. Cas. lek. cesk.
89 no.44:1237-1238 3 Nov 50. (CLML 20:4)

1. Of the First Internal Clinic of Charles University in Prague
(Head--Prof. K. Hynek, M.D.) and of the State Regional Hospital
in Moste (Head--Symon, M.D.).

FRONEK, Arnost, MUDr.; GANZ, Vilem, MUDr.; HAMMER, Jan, MUDr.;
PISA, Zbynek, MUDr.; ZEMPLENYI, Tibor, MUDr.; za tech. spoluprace:
STEIDLOVE, Aloisie; VELATOVE, Anny

Skin resistance in ischemic heart disease. Vnitř. lek., Brno 1
no.5:333-339 May 55.

1. Ústav pro choroby oběhu krve v Praze-Krci, ředitel prof.
MUDr. Kl. Weber.

(SKIN, physiology
resist. in ischemic heart dis.)
(HEART DISEASE
ischemic, skin resist.)

FRONEK, A.; GANZ, V.; HAMMER, J.; PISA, Z.; technickou spoluprací:
VELATOVÉ, A.; STEDLOVÉ, A.

Skin temperature in persons with ischemic heart disease.
Vnitr. lek., Brno 1 no.6:435-437 June 55.

1. Ústav pro choroby oběhu krevního v Praze-Krci, ředitel
prof. Dr. Kl. Weber.

(HEART DISEASE

ischemic, skin temperature.)

(SKIN, in various diseases

heart dis., ischemic, temperature measurement.)

(BODY TEMPERATURE

skin in ischemic heart dis.)

FRONK, A.; PISA, Z.

Effect of calcium on cardiovascular depression caused by sodium
pentothal. Cas. lek. cesk. 44 no.10:254-257 4 Mar 55.

1. Ustav pro choroby obehu krevniho; red. prof. Dr. Kl.Weber.
(HEART, blood supply
cardiovasc. depression caused by thiopenthal sodium, eff.
of calcium on)
(BARBITURATES
thiopenthal sodium causing cardiovasc, depression, eff.
of calcium)
(CALCIUM, effects
on cardiovasc. depression caused by thiopenthal sodium)

Fronek, A.

Present state of research on blood and lymph circulation in Hungary.

P. 123

CESKOSLOVENSKA FYSIOLOGIE. (Ceskoslovenska akademie ved. Fy-
siologicky ustav) Praha

Vol. 5, no. 1, 1956

Source: ELAL - LC Vol. 5. No. 10 Oct. 1956

PISA, Z.; FRONEK, A.; Za technicke spoluprace A. Steidlove.

Effect of occlusion of the coronary artery on myocardial
contractions. Cesk. fysiол. 5 no.2:200-208 23 June 56.

1. Ustav pro choroby obehu krevniho, Praha.

(HEART, physiology.

contractions, eff. of coronary artery occlusion (Cx))

PISZ, Z.; ~~FRONEK, A.~~ with the technical assistance of A. Steidlova

The influence of occlusion of a coronary artery on the contraction of heart muscle. Physiol. bohém. 5 no.2:224-233 1956.

1. Institute for Cardiovascular Diseases, Prague.
(HEART, blood supply,
eff. of occlusion of coronary artery on contractions of
heart musc.)

FRONEK, A.; PISA, Z.

High frequency cardiomyography; registration of myocardial contractions with the aid of high frequency current. Cesk. fysiол. 5 no.2:235-239 23 June 56.

1. Ustav pro choroby obehu krevniho, Praha.

(ELECTROMYOGRAPHY,

high frequency cardiomyography (Cz))

(MYOCARDIUM, physiology,

high frequency cardiomyography (Cz))

Country : CZECHOSLOVAKIA V
 Category : Pharmacology and Toxicology. Narcotics
 Abs. Jour. : Ref Zhur-Biol, No 13, 1958, No 61330
 Author : Pisa, Z.; Froněk, A.
 Institut. : -
 Title : Effect of Calcium on the Depressing Action of Sodium Pentothal on the Myocardium. II. Effect of Calcium on the Duration and Depth of Anes-
 Orig Pub. : Ceskosl. fysiол., 1956, 5, No 3, 328-330
 Abstract : Anesthesia was produced in rabbits by intravenous administration of Sodium Pentothal (45 mg./kg. in 10% solution at the rate of 25 mg. per minute) or of Markumon (50 mg./kg., 25 mg. per minute). A 10% solution of calcium chloride was administered immediately after the anesthetics in doses of 90 and 100 mg./kg., respectively. It was established that in the amounts used,
 * thesis
 Ustav pro choroby obehu krevního, Praha.
 Card: 1/2

PISA, Z.; FRONEK, A.
 APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000513810020-1"

Influencing the inhibitory effect of pentothal sodium on the myocardium by calcium. II. The effects of the administration of calcium on the duration and depth of narcosis. Physiol. bohém. 5 no.3:333-335 1956.

1. Institute for Cardiovascular Diseases, Prague.
 (THIOPENTAL, anesthesia and analgesia,
 eff. of calcium chloride on depth & duration in rabbits)
 (CHLORIDES, effects,
 on thiopental anesth. depth & duration in rabbits.)

EXCERPTA MEDICA Sec.9 Vol.11/10 Surgery Oct 57

• Circola - Palermo

5130. FRONĚK A. and PĚŠA Z. Inst. for Cardiovasc. Dis., Prague, Krč. *Con-
tribution to the therapy of myocardial depression caused
by thiopentone sodium (studied by high frequency cardio-
myography) BRIT.J.ANAESTH. 1956, 28/8 (366-372) Graphs 3 Tables 1
Illus. 1

The factors involved in the hypotensive effect of intravenous barbiturate anaesthesia were investigated in 15 dogs and 34 rabbits. These dogs received doses of thiopentone of 30 mg./kg. body weight and the arterial pressures of the femoral artery and the aorta were recorded together with simultaneous measurement of myocardial contraction by high frequency cardiomyography. These experiments indicated that intravenous administration of thiopentone has a direct depressant action on myocardial muscle as revealed by a weakened ventricular contraction. This fall in blood pressure was reversed by the intravenous administration of 5-10 ml. of 10% CaCl_2 . Neither duration nor depth of anaesthesia in rabbits was affected by the CaCl_2 administration. Clinically, 16 out of 18 cases in whom the blood pressure fell 20-30 mm.Hg during the intravenous administration of thiopentone, responded to the intravenous injection of calcium.

Hale - Cleveland, O.

FRONEK, A.; PISA, Z.

High frequency cardiomyography; the registration of contraction of the myocardium by means of high frequency current. Physiol. bohem. 5 no.3:376-380 1956.

1. Institute for Cardiovascular Diseases, Prague.
(ELECTROMYOGRAPHY,
cardiomyography, high frequency)
(MYOCARDIUM,
same)

EXCERPTA MEDICA Sec 18 Vol. 2/6 Cardio June 58

1844. *The decrease of blood pressure due to acute ischaemia of the myocardium* Über die Blutdrucksenkung bei der akuten Ischämie des Myokards. FRONEK A. and PIŠA Z. Inst. für Kreislaufkrankh., Prag-Krč Arch. Kreisl.-Forsch. 1957, 27/1 (34—54) Graphs 16 Tables 5

It has been shown, that after vagotomy (or cooling of the n. vagus) there is the same decrease of the arterial blood pressure (B.P.) as before (as a consequence of a transitory coronary occlusion). The same results have been obtained after infiltration of procaine into the ischaemic area. It was found that the increase of the B.P. in the left atrium precedes not only the decrease of the arterial B.P., but also the first signs of ballooning (by means of high-frequency cardiomyography). Further it was shown that depressing the reserve contractility of the non-ischaemic heart muscle, it was possible to achieve a decrease of B.P. due to transitory coronary occlusion far more often (in 80%). The importance of the reserve contractility of the non-ischaemic area was finally shown by the fact that in 75% it was possible to prevent a decrease of B.P. by i.v. administration of CaCl_2 . The results are interpreted in terms of the myogenic conception of the decrease of B.P. due to coronary occlusion.
Froněk — Prague (XVIII, 6*)

GANZ, V.; FRONEK, A.: s technickou asistenci J. Zelene a J. Krize.

Blood potassium and hemodynamic changes following rapid blood transfusion with a low citrate concentration and a high blood potassium concentration. Cas. lek. cesk. 96 no.13:381-385
29 Mar 57.

1. Ustav pro choroby obehu krevniho, Praha-Krc.-Prednosta:
prof. MUDr. K. Weber.

(BLOOD TRANSFUSION, exper.

eff. of transfusion with low citrate & high potassium
concentration on blood potassium & hemodynamica in
dogs (Cz))

(POTASSIUM, in blood

eff. of blood transfusion with low citrate & high
potassium concentration in dogs (Cz))

(BLOOD CIRCULATION

same))

Country : CZECHOSLOVAKIA

Category: Human and Animal Physiology. Blood. Blood Transfusions and Blood Substitutes

T

Abs Jour: RZhBiol., No 19, 1958, 88710

Author : Ganz, V.; French, J.

Inst : -

Title : On the Problem of Toxicity of Citrated Blood

Orig Pub: Casop. lekaru ceskych, 1957, 96, No 35, 1105-1113

Abstract: About 30% of blood was withdrawn in dogs and was reinjected within 30 minutes with the addition of sodium citrate (I) in the experimental animals and heparin in the controls. The rate of the infusion was 6 ml/kg in one minute. Dogs which received blood with the addition of 0.75 g of I/

Card : 1/3

Ustav pro choroby obehu krevniho, reditel T-26
800. prof. MUDr Kl. Weber V. G. Praha-Krc, Budejovicka

Country : CZECHOSLOVAKIA

Category: Human and Animal Physiology. Blood. Blood Transfusions and Blood Substitutes

T

Abs Jour: RZhBiol., No 19, 1958, 88710

/100 ml of blood died during the transfusion (T) or soon after it ended, with manifestations of heart failure, sharp increase of venous pressure and fall of arterial pressure. Signs of heart failure appeared within one min. 24 sec. after the beginning of T, that is, after restitution of 28% of the removed blood. In 4 out of 5 cases there was cardiac arrest, and in 1 ventricular fibrillation was noted. Respiration ceased about 4 min. after the beginning of T. All animals survived transfusions with 0.38 g of I/100 ml of blood. The changes in arterial pressure and in the respiratory and pulse rates were insignificant when compared with controls.

Card : 2/3

Category: Human and Animal Physiology. Blood. Blood Transfusions and Blood Substitutes

Abs Jour: RZhBiol., No 19, 1958, 88710

GANZ, V. & FRONEK, A.

Measurement of blood flow based on thermodilution. Cesk. fysiolog. 7 no.5:
455-456 Sept 58.

1. Ustav pro choroby obehu krevního, Praha.
(BLOOD CIRCULATION, determination,
thermodilution technic (Cz))

FRONEK, A.; GANZ, V.

Local thermodilution method of measuring minute volume and circulation rate in the peripheral vessels. Cesk. fysiол. 8 no.3:189 Apr 59.

1. Ustav pro choroby obehu krevniho Praha. Predneseno na III. fysiologickych dnech v Brne dne 13. 1. 1959.

(BLOOD VOLUME,

minute volume, local thermodilution method of determ. (Cz))

(BLOOD CIRCULATION,

rate, local thermodilution method of determ. (Cz))

GANZ, V.; PRONEK, A.

Effect of nitroglycerin on coronary and general hemodynamics and
on oxygen metabolism in the myocardium. Cas.lek.cesk. no.13:400-405 '60.

1. Ustav pro choroby obehu krevniho, Praha-Krc, reditel prof.Dr.
Sc Kl. Weber.

(NITRITES pharmacol.)

(MYOCARDIUM metab.)

(BLOOD CIRCULATION pharmacol.)

GANZ, V. FRONEK, A.

Measurement of the flow in the sinus coronarium using a method of local thermodilution. Cas.lek.cesk. 99 no.18:545-557 29 Ap '60.

1. Ustav pro choroby obehu krevniho, Praha-Krc, reditel prof.

MUDr. Klement Weber.

(CAROTID SINUS physiol.)

FRONEK, A.; GANZ, V.; HAMMER, J.; PISA, Z.

Basic levels of coronary systemic circulations and oxygen metabolism in dogs under anesthesia. Cesk.fysiol. 9 no.3:228 My '60.

1. Ustav pro choroby obehu krevniho, Praha.
(BLOOD CIRCULATION)
(OXYGEN blood)
(CORONARY VESSELS physiol)
(ANESTHESIA GENERAL)

FRONKOVA, K.; FRONEK, A.; GANZ, V.

Change of cardiac minute volume by means of non-conditioned food reflex in dogs. Cesk. fysiол. 9 no.3:229- My '60.

1. Ustav pro choroby obehu krevniho, Praha
(BLOOD VOLUME)
(HEART physiол)
(REFLEX)

GANZ, V.; PRONEK, A.

Effect of nitroglycerin on coronary and systemic hemodynamics
and on oxygen metabolism of the myocardium. Cesk.fysiol. 9 no.3:
284-285 My '60.

1. Ustav pro choroby obehu krevniho, Praha.
(MYOCARDIUM metab)
(CORONARY VESSELS pharmacol)
(BLOOD PRESSURE pharmacol)
(NITRITES pharmacol)

FRONEK, A.

New methods of blood flow measurement. Cesk. fysiол. 11 no.2:81-103
'62.

1. Ustav pro choroby obehu krevniho. Praha.
(BLOOD CIRCULATION)

GANZ, V.; FRONEK, A.; HAITEK, J.

An investigation of the pharmacological treatment of angina pectoris.
Rev. czech. M. 8 no.2:137-142 '62.

1. Institute for Cardiovascular Research, Prague; Director: Academician
K. Weber, M.D.

(ANGINA PECTORIS therapy) (NITRITES therapy)
(PAPAVERINE therapy) (EPINEPHRINE pharmacol)
(ERGOT ALKALOIDS pharmacol)

2

CZECHOSLOVAKIA

PROTEK, A; PREROVSKY, I.

Institute of Diseases of the Blood (Ústav pro choroby
oběh krevního), Prague-Kro (for both)

Brno, Vnitřní lékařství, No 6, 1963, pp 547-559

"Progress in Methods of Cardiological Investigation."

FRONKOVA, K.; VAVREJN, B.; FRONEK, A.

I-131 uptake by the myocardium in patients after myocardial infarct. Cas.lek.cesk. 103 no.3:64-66 17 Ja'64.

1. Ustav klinicke a experimentalni chirurgie v Praze: (reditel: prof.dr. B.Spacek, DrSc) a Ustav pro choroby obehu krevniho v Praze: (reditel: prof.dr. J.Brod, DrSc.).

*

HUDLICKA, O.; BASS, A.; FRONEK, A.

Utilization of a substrate of mammalian skeletal muscle and myocardium in situ. *Cesk. fysiол.* 13 no.4:374-378 J1 '64.

1. Fysiologicky ustav Ceskoslovenske akademie ved, a Ustav pro choroby obehu krevniho, Praha.

FRONEK, A.; HUDLICKA, O.

The effect of hyper- and hypovolemia and of epinephrine on the energy expenditure and efficiency of the left ventricle. *Physiol. Bohemoslov.* 14 no.3:241-246 '65.

The role of different haemodynamic parameters in cardiac performance. *Ibid.*: 247-252

1. Institute of Physiology of the Czechoslovak Academy of Sciences, Prague, and Institute of Cardiovascular Research, Prague.

FRONEK, F.

New kinds of insurance for motorist members of the League. p. 182. (Svet Motoru. Praha. Vol. 10, no. 6, Mar. 1956.)

SO: Monthly List of East European Accessions (EEAL) LC., Vol. 6, no. 7, July 1956. Uncl.

FRONEK, V., inz.

Graphic method of designing throttles and nozzles. Strojirenstvi 11
no.11:808-810 N '61.

1. Vyzkumny a zkusebni ustav, Leninovy zavody, Plzen.

(Mechanical engineering) (Nozzles)

FRONERT, V.V.

Zone of intertrade wester lies in the central part of the Pacific
Ocean. Trudy Inst. okean. 40:40-43 '60. (MIRA 14:8)
(Pacific Ocean--Winds)

FRONESCU, E., Dr.; BLANC, G., dr.

Analysis of tests for dysproteinemia in employees of a drug plant. Med.int.,Bucur. 8 no.5:679-685 Sept 56.

(BLOOD PROTEINS
dysproteinemia in employees of drug plant, relation to
syphilis, infect. hepatitis & gallbladder dis.)
(HEPATITIS, INFECTIOUS, blood in
protein disord., incidence)
(SYPHILIS, blood in
(SAME)
(GALLBLADDER, diseases
causing dysproteinemia, incidence)

PRONESCU, E., dr.; PETRONIU, L., dr.; CONSTANTINESCU, S., chimist

Study of renal elimination of water during chronic hepatitis.
Med. int., Bucur. 12 no.2:269-277 F '60.

1. Lucrare efectuata in Clinica a V-a medicala, I.M.F., Bucuresti.
(HEPATITIS, metabolism)
(WATER, metabolism)
(LIVER, metabolism)

FRONESCU, E., dr.; OCHINDUC, S., dr.

Considerations on a "renal form" of plasmocytoma. Med. intern.,
Bucur 12 no.11:1687-1691 N '60.

1. Lucrare efectuata in Clinica a V-a medicala, Spitalul "V.Roaita"
I.M.F. Bucuresti, director: prof. T.Spirchez.
(MYELOMA, PLASMA CELL case reports)
(ALBUMINURIA etiology)

FRONESCU, E., dr.; VLADESCU, Nadia, chimista

Investigations of Kunkel's phenol test in the diagnosis of arterio-sclerosis. Med. intern. 14 no.2:221-227 P '62.

1. Lucrare efectuata in Clinica a V-a medicala, Spitalul "Vasile Roaita", I.M.F., Bucuresti (director: prof. T. Spirchez).
(ARTERIOSCLEROSIS diagnosis) (PHENOLS)

FRONESCU, E., dr.; VILCU, Al.

Thromboelastographic investigations in atherosclerosis. Med. intern.
14 no.10:1199-1206 0 '62.

1. Lucrare efectuata la Clinica a V-a medicala I.M.F., Bucuresti.
(ARTERIOSCLEROSIS) (THROMBOELASTOGRAPHY)

FRONESCU, E.

ROMANIA

FRONESCU, E. MD.

Chief of Research Operations, Medical Clinic No V, Institute
of Medicine and Pharmacy (Sef de Lucrari, Clinica V-a
medicală, I.M.F.), Bucharest.

Bucharest, Viata Medicală, No 3, 1 Feb 63, pp 155-160.

"Critical Remarks on the Biochemical Diagnosis of Atherosclerosis."

(1)

FROMESCU, Edgar, dr.; TUDOR, Rodica, chim.

Burstein's beta-lipoprotein precipitation test. Med. intern.
(Bucur.) 10-no.5:569-573 My'64.

1. Lucrare efectuata in Clinica medicala a Spitalului de
adulti "Grivita Rosie" I.M.F. [Institutul medico-farma-
ceutic] si Policlinica X, Bucuresti.

FRONȚU, V., dr.; RABECCA, E., dr.; GHORGHIU, P., dr.; LACINA, I., dr.

Studies of blood radioactivity in atherosclerosis after ingestion of tiolois labeled with ^{131}I . Med. intern. (Bucur.) 16 no.11: 1327-1332 N '64

1. Incare efectuala in clinica medicala a Spitalului exilent de adulti al radiului Iodivita Basi. Institutul medic-farmaceutic, Bucuresti (directors prof. T.Spiridon).

FRONTIN, V.I.

2400. EQUIPMENT FOR INCREASING THE CALORIFIC VALUE OF FEEDSTUFFS.
Duzov, S.R. and Frontin, V.I. (Stokho Keren. (Glava 4 Cereales, Moscow), 1956,
Vol. 13, (7), 28).

FRONK, K.

Management of farms for agricultural research must be improved.

p. 222

Vol. 3, no. 4, 1956.

BESEDA VENKOVSKÉ RODINY

Praha

SO: Monthly List of east European Accessions (EEAL), LC, Vol. 5, no. 12
December 1956

FRONK, Karel

Experiment stations contribute to the increase of the agricultural
production. Vestnik CSAZV 8 no.9:486-488 '60. (EEAI 10:3)
(Czechoslovakia--Agriculture)

ZELIKMAN, G.A.; MAZEL', Ye.Z.; PRESS, F.P.; FRONK, S.V.; LOBKIN,
A.S., red.; SEUL'SKIY, A.S., red.

[Silicon transistor diodes and triodes; manufacture techniques] Poluprovodnikovye kremnievye diody i triody, tekhnologiya proizvodstva. Moskva, Izd-vo "Energia," 1964.
183 p. (MIRA 17:8)

24(6), 7(7), 8(2)

AUTHORS:

Zelikman, G. A., Engineer, SOV/105-59-1-16/29
Levenberg, Ya. S., Engineer, Lukashova, I. P., Engineer,
Sidorov, Yu. I., Engineer, ~~Fronk, S. V., Engineer~~

TITLE:

Junction-Type Silicon Diodes (Ploskostnyye kremniyevyye diody)

PERIODICAL:

Elektrichestvo, 1959, Nr 1, pp 64-68 (USSR)

ABSTRACT:

This investigation concerns the manufacturing process and electric properties of silicon rectifier diodes of the types D 202 to D 205. These are obtained by the method of melting aluminum with the silicon of the n-type. These diodes are obtained from silicon with a specific resistance of 10-30 ohmcentimeters, and show an operating inverse voltage of 100-400 volts and a rectified current of 400 ma. The admissible working temperature of such diodes is + 125°C. These diodes can be used in circuit schemes for rectifying an alternating current with a frequency up to 100 kilocycles. The construction of these diodes is described. It is based on the construction of the germanium diode D-7. Then the volt-ampere characteristics are examined. The principal properties of the diode are expressed by the volt-ampere characteristics (static characteristics) taken at direct

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Junction-Type Silicon Diodes

SOV/105-59-1-16/29

current. The static characteristic and the admissible power greatly mark the quality of the diode. But in order to obtain parameters approaching the working method of rectifier diodes, the characteristic is taken at alternating current in a number of cases (dynamic characteristic). The classification of diodes is given. They are divided in 4 groups according to the magnitude of inverse voltage. The diodes shown here may be also connected in series. Finally, the prospects of development of diodes are illustrated. With the use of Si it will become possible in the near future to obtain diodes for inverse voltages of over 1000 volts, rectifier columns for dozens of kilovolts, large diodes for dozens of amperes, and diodes for special purposes with very small return currents and increased limiting frequency. To obtain diodes with high puncture voltage, it might be of advantage to use the stretching method. This method permits to obtain the fields with different conducting capacities of the crystal during the production of the silicon monocrystal. In the development of diodes, attention is directed more and more to the diffusion method. Some preliminary data on the obtaining of p-n-transitions according to the diffusion method are given

Card 2/3

Junction-Type Silicon Diodes

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here. M. I. Iglitsyn, Candidate of Technical Sciences,
discussed the work with the authors. There are 4 figures
and 1 table.

SUBMITTED: May 4, 1958

Card 3/3

ZELIKMAN, G.A.; MAZEL', Ye.Z.; PRESS, F.P.; FRONK, S.V.; DOBKIN,
A.S., red.; SMUL'SKIY, A.S., red.

[Silicon diodes and triodes; their production technology]
Poluprovodnikovye kremnievye diody i triody; tekhnologiya
proizvodstva. Moskva, Energiia, 1964. 183 p.

(MIRA 17:12)

JADRNY, Jaroslav; KONIGOVA, Radana; FRONE, Vratislav

The use of cyclopropane for anesthesia in short-term and ambulatory operations using an apparatus designed by the authors. Rozhl.chir.39 no.10:697-699 0'60.

1. Krajska nemocnice v K.Varech, ved. anesteziolog MUDr. J.Jadrny.
(CYCLOPROPANE anesth. & analg)

FRONKOVA, K.; SLEGR, L.

Method of continuous bloodless registration of blood pressure.
Chekh. fiziol. 4 no.4:444-450 1955.

1. Issledovatel'skiy institut zabolevaniy i krovoobrashcheniya,
Praga.
(BLOOD PRESSURE, determination,
registration, constant bloodless technic)

FRONKOVA, K.; SLEGR, L.

Method of continuous bloodless registration of blood pressure.
Cesk. fysiол. 4 no.4:482-487 22 Oct 55.

1. Ustav pro choroby obehu krevniho, Praha.
(BLOOD PRESSURE, determination,
continuous bloodless registration)

FRONKOVA, K.

Present conditions of physiological research in Poland. p. 493.
(CESKOSLOVENSKA FYSIOLOGIE, Vol. 5, No. 4, 1956, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 12, Dec 1957. Uncl.

FROŇKOVÁ K.

EXCERPTA MEDICA Sec.18 Vol.2/4 Cardiovascular Dis. Apr 58

911. *Circulatory changes in dogs during conditioned and unconditioned feedings reflexes and their depression* Die Kreislaufänderung beim Hunde während des bedingten und unbedingten Nahrungsreflexes und seiner Hemmung. FROŇKOVÁ K., EHRLICH V. and ŠLEGR L. Inst. für Kreislaufkrankh., Prag-Krč., C.S.R. *Pflügers Arch. ges. Physiol.* 1957, 263/6 (704—712) Graphs 6 Tables 2

The changes of heart rate, breathing and blood pressure in trained normal dogs during the actual feeding and conditioned feeding reflexes are described. During feeding the heart rate, respiration and blood pressure increase. Conditioned feeding is accompanied by the same changes but of lower degree. The differentiation reaction depended on the degree of central excitability of the animal. In dogs with higher excitability, pathological circulatory reactions were found.

Trčka - Prague (II, 18)

KERLICH, V.; FRONKOVA, K.

Effect of prolonged administration of 1,4-dihydrazinephthalazine on respiration and blood circulation at rest and on food reflexes in dogs. Cesk. fysiolog. 7 no.5:449-450 Sept 58.

1. Ustav pro choroby odevu krevniho, Praha.

(HYDRAZINE, rel. cpds.

1,4-dihydrazinephthalazine, eff. on resp., blood circ. & food in dogs (Cz))

(BLOOD PRESSURE, eff. of drugs on,

1,4-dihydrazinephthalazine (Cz))

(RESPIRATION, eff. of drugs on, same)

(REFLEX,

food reflexes, eff. of 1,4-dihydrazinephthalazine (Cz))

FRONKOVA, K.; EHRLICH, V.

Dissociation of autonomic inhibition reactions in dogs in defense and food reflexes. Cesk. fysiол. 7 no.5:454-455 Sept 58.

1. Ustav pro choroby obehu krevnih, Praha.

(REFLEX, CONDITIONED,

dissociation of autonomic inhib. reactions in dogs in defense
& food reflexes (Cz))

(AUTONOMIC NERVOUS SYSTEM, physiol.
same)

EHRLICH, V.; FRONKOVA, K.

Experimental studies on peroral medication with methylphenidine (ritalin). Cesk. fysiolo. 8 no.3:182-183 Apr 59.

1. Ustav pro choroby obehu krevniho, Praha, Predneseno na III. fysiologickych dnech v Brne dne 14. 1. 1959.

(METHYLPHENIDYLACETATE, admin.
oral (Cz))

FRONKOVA, K.; EHRLICH, V.

Dynamic development of vegetative dissociation of inhibition in dogs. Cesk. fysiол. 8 no.3:189-190 Apr 59.

1. Ustav pro choroby obehu krevního, Praha. Predneseno na III. fysiologických dnech v Brně dne 13. 1. 1959.

(REFLEX, CONDITIONED,

dynamic develop. of vegetative dissociation of inhib.
in dogs (Cz))

FRONKOVA, X.; PRONEK, A.; GANZ, V.

Change of cardiac minute volume by means of non-conditioned food reflex in dogs. Cesk.fysiol. 9 no.3:229- My '60.

1. Ustav pro choroby obehu krevniho, Praha
(BLOOD VOLUME)
(HEART physiol)
(REFLEX)

EHRLICH, V.; FROMKOVA, K.

Effect of a prolonged administration of phenmetrazine in clinically-used doses on vegetative reactions in dogs. Cesk.fysiol. 9 no.3: 281 My '60.

1. Ustav pro choroby obehu krevniho, Praha.
(PHENMETRAZINE pharmacol)
(AUTONOMIC NERVOUS SYSTEM pharmacol)

EHRLICH, V.; FRONKOVA, K.

Experimental work on the appearance of abnormal reactions and their effective therapy. Cas.lek.cesk. nol3:394-400 '60.

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(REFLEX CONDITIONED)

EHRLICH, V.; FRONKOVA, K.

The circulatory reaction of the organism to environmental stimuli.
Rev. czech. M. 8 no.2:101-107 '62.

1. Institute for Cardiovascular Research, Prague; Director: Academician
Kl. Weber.

(BLOOD CIRCULATION physiology) (TRANQUILIZING AGENTS pharmacology)

EHRlich, V.; FRONKOVA, K.

The effect of the adrenergic system of the cns on the higher nervous activity of dogs. Activ. nerv. sup. 4 no.3/4:405-410 '62.

1. Institute for Cardiovascular Research, Praha - Krc.
(CENTRAL NERVOUS SYSTEM) (PULSE) (BLOOD PRESSURE)
(RESPIRATION) (RESERPINE) (REFLEX CONDITIONED)

CZECHOSLOVAKIA

EHRLICH, V.; FRONKOVA, K.; NOVAKOVA, A.; Institute for Blood-circulation Diseases (Ustav pro Choroby Obehu Krevniho) in Prague - Krc.

"Significance of Pressoreception of Sinus Caroticus and Arcus Aortae for Higher Nervous Activity in Dogs."

Prague, Activitas Nervosa Superior, Vol 5, No 4, 1963, p 412

Abstract: Vegetative reaction at rest, at feeding time and the blood circulation as result of these reaction was studied on 3 dogs after twosided denervation of sinus caroticus and arcus aortae in the 2nd, 3rd and 13th month after the operation. No references. Submitted at the Medical Congress in Prague, November 1962.

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I-131 uptake by the myocardium in patients after myocardial infarct. Cas.lek.cesk. 103 no.3:64-66 17 Ja'64.

1. Ustav klinicke a experimentalni chirurgie v Praze (reditel: prof.dr. B.Spacek, DrSc) a Ustav pro choroby obehu krevniho v Praze: (reditel: prof.dr. J.Brod, DrSc.).

*

HOBLEK, Tadeusz; FRONSKI, Andrzej

Analysis of the application of circulation in heat exchangers.
Chemia stosow 7 no. 2:181-207 '63.

1. Zaklad Inzynierii Chemicznej i Konstrukcji Aparatury,
Polska Akademia Nauk, Warszawa.

HOBIER, Tadeusz; FROMEKI, Andrzej

Analysis of the application of packed towers for mass transfer processes with recirculation of the liquid. *Chemical Engineering* 1 no.2:163-179 '64.

J. Institute of Chemical Engineering and Applied Chemistry, Gliwice of the Polish Academy of Sciences. Submitted January 8, 1963.

FRONSKI, D.

"A Regional Voice on an Important Matter." P. 160. (WIADOMOSCI, Vol. 22, No. 3, Mar. 1954. Warszawa, Poland.)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 1, Jan. 1955 Uncl.

FRONSKI, D.

"Again About the Standardization of Chemical Equipment." P. 212. (WIADOMOSCI, Vol. 22, No. 4, Apr. 1954. Warszawa, Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 1, Jan. 1955 Uncl.

FRONT, Jerzy

The WFM motorcycle after 25,000 km. Motor 11 no.28:6
15 J1 '62.

FRONTALI, G.

Intra- and extra-cellular fluid in children in normal and pathological conditions. Acta med. hun. 15 no.1:129-134 '60.

1. Department of Paediatrics, University Medical School, Rome.
(BODY FLUIDS)
(PEDIATRICS)

FRONTAS'YEV, V. P.

Saratov State Univ., Chair of Physics (-1946-).

"Thermal Conductivity as a Method of Physical-Chemical Analysis of Binary Liquid Systems."

Zhur. Fiz. Khim., No.1, 1946.

Heat conductivity as a method of physicochemical analysis of binary liquid systems. N. P. Krut'ko (State Univ., Saratov). *J. Phys. Chem. (U.S.S.R.)* 20, 91-104 (1946). The heat cond. K (cal./cm. sec. degree) was detd. in an improved app. of the Neldov and Klansen type (C.A. 27, 5028). K is calcd. from the equation $K = \frac{m}{C.A.} \frac{d\theta}{dt} \left(\frac{1}{S} \tan \varphi \right)$; m is the mass of cold H_2O passing in a sec. through the cold container, t the temp. increase of this H_2O during the passage, l the length of the path of the light beam in the liquid film between the cold and the hot container, θ the coeff. of the thermal expansion of the liquid, n its refractive index, S the film area and φ the deviation of the light beam due to the variation of n within the film. Both β and n of the liquids used were detd. by the film. For H_2O between a container at 25° and one at 10° , $K = 0.00148 \pm 0.00005$. For $EtOH$ at 25° , $K = 0.00047 \pm 0.00002$. At room temp. K for $EtOH$, PhH , $AcOH$, $PhNO_2$, $COMe$, $PhNH_2$, piperidine, allyl isothiocyanate, methylaniline, and acetic anhydride

are resp., 405, 200, 478, 478, 472, 477, 431, 402, 442, and 120×10^{-5} . When β , n , and K are plotted against mole fraction, straight lines result in the system $CalH_6$ - PhH . In the system $CalH_6$ - $AcOH$ β and n give straight lines, and K passes through a min. at about 40 mol. % of $AcOH$. In the system $CalH_6$ - $PhNO_2$ β and n are slightly concave towards the abscissa, and K is strongly convex. In the system $CalH_6$ - $COMe$ K gives a straight, β a slightly concave, and n a slightly concave line. In the system $PhNH_2$ - $AcOH$ n gives a concave curve, β a min. at 50-55 mol. % of $AcOH$, and K a min. at 60% and a max. at 80% of $AcOH$. In the system piperidine- H_2O β and n are strongly concave, and K is strongly convex; apparently the curve for K shows a kink at $CalH_6$ - NH_3 . In the system $CalH_6$ - NCB $MeNHPh$ n shows a max. and β and K show a min. at 50 mol. %. In the system AcO - H_2O a flat min. of n , a flat max. of K and a kink in the β curve correspond to the compn. of $AcOH$. Generally, the effects of compn. on K are opposite to those on n . K is suitable for a physicochem. analysis of binary systems. J. J. Bikerman

FRONTAS'YEV, V. P.

PA 197T32

USSR/Chemistry - Aniline

Dec 51

"Concerning N. B. Vargaftik's and V. V. Kerzhentsev's Paper 'Problem of Heat Conductivity of Binary Liquid Systems,'" V. P. Frontas'yev, Inst Mech and Phys, Saratov State U

"Zhur Fiz Khim" Vol XXV, No 12, pp 1512, 1513

Discusses methods for detg heat cond of acetic acid-aniline system. Criticizes procedure using electrically heated wire on the ground that system is electrically conductive. Engages in some polemic argument with Vargaftik, and mentions exptl data on similar systems.

LC

197T32

USSR/Physical Chemistry - Thermodynamics. Thermochemistry. Equilibrium. Physico-chemical Analysis. Phase Transitions, B-8

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 359

Author: Frontas'yev, V. P.

Institution: Saratov University

Title: An Optical Method for Determining the Thermal Conductivity of Liquids and Its Application in the Field of Physicochemical Analysis

Original

Periodical: Nauchn. ezhegodnik za 1954 g. Saratovsk. un-t, Saratov, 1955, 579

Abstract: A short communication on an improvement of the method.

Card 1/1

FRONTAS'YEV V. P.
USSR/Physical Chemistry - Thermodynamics, Thermochemistry, Equilibrium, Physico-chemical Analysis, Phase Transitions, B-8

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 358

Author: Frontas'yev, V. P.

Institution: Saratov University

Title: On the Possibility of Utilizing the Temperature Coefficient of Molecular Refraction in Physicochemical Analysis

Original

Periodical: Nauchn. ezhegodnik za 1954 g. Saratovsk. un-t, Saratov, 1955, 585-587

Abstract: An investigation has been made of the behavior of the thermal coefficient of molecular refraction α_R in liquid systems. In the determination of α_R the value of the density and of the refractive index of the test liquid was recorded at 2 temperatures: 20 and 25°. The density was measured by means of a pycnometer-dilatometer with an accuracy of $\pm 10^{-5}$. The refractive index n_D was measured with an accuracy of $\pm 2 \cdot 10^{-5}$. By placing the cuvettes used in both measurements in a constant temperature bath, the temperature was controlled

Card 1/2

USSR/Physical Chemistry - Thermodynamics. Thermochemistry. Equilibrium. Physico-chemical Analysis. Phase Transitions, B-8

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 358

Abstract: to within 0.01° . For the system aniline-acetic acid a minimum was obtained for α_R at 33.3 mole % acetic acid, which corresponds to the composition $2C_6H_5NH_2 \cdot CH_3COOH$, with a second minimum near the coordinated of the compound $2CH_3COOH \cdot C_6H_5NH_2$. The α_R curve for the dioxane-water system shows a minimum at about 20, 33, and 50 mole % dioxane, corresponding to the compounds $C_4H_8O_2 \cdot 4H_2O$, $C_4H_8O_2 \cdot 2H_2O$, and $C_4H_8O_2 \cdot H_2O$. In the toluene-benzene system minimums were found at about 25 and 75 mole % benzene. The results show that α_R is sensitive to changes in the structure of the liquid.

Card 2/2

Frontas'yev V.P.

USSR/Thermodynamics - Thermochemistry. Equilibria.

B-8

Physical-Chemical Analysis. Phase Transitions.

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 18491

Author : V.P. Frontas'yev.

Title : Optical Method of Determination of Thermal Conductivity of Liquids and Its Application in Region of Physical-Chemical Analysis.

Orig Pub : Zh. neorgan. khimii, 1956, 1, No 6, 1322-1327

Abstract : The equipment for measuring the thermal conductivity factor (λ) of liquids by the optical method is described in detail. This method allows to determine λ in range between 0 and 70° with errors $< 1\%$ according to the equation $\lambda = (m\Delta T c l / s \tau T g \psi)(\Delta n / \Delta T)$, where m is the mass of water running through the calorimeter in 1 sec, ΔT is the temperature difference of water at the inlet and the outlet, c is the specific heat of water, l is the geometric length of the path of the

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- 173 -

*Sci Res Inst. Mech. & Physics, Saratov State Univ
in Chernyshev*

FRONTAS'EV, V.P.

Category : USSR/Atomic and Molecular Physics - Heat

r-4

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 630C

Author : Frontas'ev, V.P.

Inst : Saratov University, USSR

Title : Determination of the Thermal Conductivity of Liquids by an Optical Method.

Orig Pub : Zaved. laboratoriya, 1956, 22, No 7, 812-817

Abstract : Description of a setup for the determination of the thermal conductivity of liquids by an optical method in the temperature range from 0 to 70°. The heat flows downward through a layer of liquid 1 -- 2 mm thick; the intensity of the heat flux is determined in the usual manner with the aid of a running-water calorimeter. The temperature gradient is determined from the angle of deflection of a beam of light passing through the liquid. The necessary quantity of liquid under investigation is 2 -- 2.5 ml. The difference between the temperatures of the upper and lower surfaces of the liquid layer is 1 -- 1.5°. Measurements of the thermal conduction of water, toluol and benzol gave results that are in good agreement with the literature data,

Card : 1/1

FRONTAS' YEV. V. P.
USSR/Physical Chemistry - Liquids, Amorphous Bodies, Gases.

B-6

Abs Jour : Referat Zhur - Khimiya, No 1, 1958, 299

Author : V.P. Frontas'yev.

Inst : Saratov University.

Title : Thermal Factor of Molecular Refraction of Water.

Orig Pub : Uch. zap. Saratovsk. un-ta, 1956, 44, 143-147

Abstract : See RZhKhim, 1956, 46268.

Card 1/1

FRONTAS'EV, V.P.

SUBJECT USSR / PHYSICS
 AUTHOR FRONTAS'EV, V.P.
 TITLE On the Character of the Polytherme of the Heat Conductivity of Water within the Range of Temperature of from 10 to 60°.
 PERIODICAL Dokl. Akad. Nauk, 111, fasc. 5, 1014-1016 (1956)
 Issued: 1 / 1957

This work describes investigation of the heat conductivity of water by means of a new optic method developed by A.F. IOFFE. This method belongs essentially to the methods of a plane layer, but it differs from the usual varieties of these methods by the fact that the temperature gradient is determined optically immediately in the layer of the liquid under investigation. The heat passing through the liquid is determined calorimetrically. The considerably improved construction of the new experimental system was described by V.P. FRONTAS'EV (Zav. lab. (=factory laboratory) No 7 (1956). The accuracy of measurements was $\pm 0,5\%$.

The results of the two measuring series (the second of which was within the temperature range of from 30 to 40° with intervals of 2,5° C) are compared in a table and in a diagram with the results obtained by other authors; agreement with the most reliable values obtained is good. The average value of the heat conductivity λ obtained from all data published in literature was for 30° equal to $147,2 \cdot 10^{-5}$, and the value obtained here (average value obtained from 11 experiments) amounts to $\lambda = 147,1 \cdot 10^{-5}$. The value $\lambda = 142,5 \cdot 10^{-5}$ attained

Dokl.Akad.Nauk,111, fasc.5, 1014-1016 (1956) CARD 2 / 2 PA - 1912
 at 20° is near the at present most reliable value of 143.10^{-5} . For 0°

$\lambda = 134,4.10^{-5}$ is obtained by extrapolation from data in literature, but extrapolation from the data found here furnishes $\lambda = 132,5.10^{-5}$ for 0°. All this tends to show that accuracy and reliability of the results obtained are satisfactory.

According to these measuring results the polytherme of water in the interval of from 10 to 60° is of a complicated character and cannot be expressed rigorously by a linear law. The experimental straight lines are nearest to a straight line with the equation $\lambda_t = (1330 + 5t).10^{-6}$. Within the temperature range of from 30 to 37,5° C the values computed by means of this equation show the greatest deviation from experimentally determined values. These deviations are beyond the limits of measuring accuracy.

Apart from anomalies of the polythermes of density, compressibility, and heat capacity, also anomalies of the polythermes of conductivity exist in water. The abnormally high values of λ in water and the addition of λ when temperature rises are connected with the peculiarities of molecular structure and the additional heat transfer by means of the "dissociation energy" of hydrogen bindings. At from 30 to 40° the structure of water probably changes considerably.

INSTITUTION: State University "N.G.CERNYSEVSKIJ" of Saratov

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000513810020-1

FRONT AS YEV Y. P.

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000513810020-1"

FRONTAS'YEV, V.P.

Abnormality of the thermoconductivity of water. Uch.zap. Sar.un.
Vyp.fiz. 56:181-190 '57. (MIRA 12:11)
(Water---Thermal properties)

AUTHOR: Frontas'yev, V. P. SOV/57-58-8-35/37

TITLE: New Data on the Heat Conductivity of Water in the Range From 10 to 60°C (Novyye dannyye o teploprovodnosti vody v oblasti ot 10 do 60°C)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1958, Nr 8, pp 1840 - 1844 (USSR)

ABSTRACT: In this paper an account is given of the shortcomings inherent in the experimental methods given in references 1-7, the most important of which are discussed. An investigation of the heat conductivity of water in the range of 10 to 60°C using the new optical method is carried through, in order to obtain more precise data. This method is due to A.F.Ioffe. According to present principles of classification this method should fall to the group of methods using plane slabs of substance. However, it differs from the ordinary variants of similar methods by the fact that the temperature gradient in the layer of the investigated fluid is determined directly by optical means whereas the measurement of the heat passing through the fluid is determined calorimetrically. The design of the new equipment (which was considerably perfected as compared to the original one from reference 8) is described

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New Data on the Heat Conductivity of Water in the
Range From 10 to 60°C

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in detail in references 9 and 10. Two series of experiments were carried out with a lapse of one year between them. The data obtained show that the polythermal line of water in the temperature range of 10 to 60°C takes a complicated course and does not accurately fit a linear equation. A comparison of the experimental with the theoretical values shows a maximum deviation in the range from 30 to 37,5°C. These deviations are doubtlessly outside the experimental errors. Thus the view is suggested that an essential modification of the structure of water takes place between 30 ... 40°C, which is expressed by the mentioned anomaly of the polythermal line of the heat conductivity. There are 1 figure, 3 tables, and 14 references, 4 of which are Soviet.

ASSOCIATION: Saratovskiy gosudarstvennyy universitet im.N.G.Chernyshevskogo
(Saratov State University imeni N.G.Chernyshevskiy)

SUBMITTED: October 20, 1956
Card 2/2

24.8000

751/3
504/57-29-10-15/13

AUTHORS: Frontas'yev, V. P., Gusakov, M. Ya.

TITLE: Thermal Conductivity of Some Organic Liquids

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1959, Vol 29, Nr 10, pp 1277-1284 (USSR)

ABSTRACT: The paper gives results of thermal conductivity measurements of 19 organic liquids. The following liquids were studied: benzene, toluene, xylene, chlorobenzene, nitrobenzene, anilin, carbon tetrachloride, ethyl alcohol, acetone, acetic acid, hexane, heptane, octane, nonane, dichloroethane, dioxan, cyclohexanone, and benzyl alcohol. All liquids were chemically pure. Measurements were made by the optical method developed by Ioffe, A. F., and described in Ref 1 (Phys. Zs. d. Soviet-Union, 5,2,191, 1934). The accuracy of the method is $\pm 0.5\%$. The results of measurements are given in tables where they are compared with those obtained by other investigators. The agreement of the thermal conductivity values obtained by the authors with those obtained by others is very good, varying from -0.5% to $+1.5\%$. It is suggested that

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Thermal Conductivity of Some Organic Liquids

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benzene, toluene, nitrobenzene, acetone, chlorobenzene, bromobenzene, and carbon tetrachloride may be used as standard liquids for calibration of apparatus employed for measurement of thermal conductivity of organic liquids. Gratitude is expressed to Prof. Golubkov, P. V., for his advice. There is 1 figure; 2 tables; and 29 references, 15 Soviet, 1 Dutch, 4 German, 5 U.S., 4 British.

The most recent U.S. and British references are: Briggs, D. K. H., Ind. Eng. Chem., 49, Nr 3, 418, 1957; Challoner, A. R., and Powell, R. W., Proc. Roy. Soc., A, 238, 90, 1956; Baxter, G., and Mason, H. A., Davies, S. J. Appl. Chem., 3, 477, 1953; Mason, H. L., Trans. Amer. Soc. Mech. Eng., 76, 817, 1954; Sakiadis, B. C., and Coates, J., J. Amer. Inst. Chem. Eng., 1, 275, 1955.

ASSOCIATION: Saratov State University im.N.G.Chernyshevskiy (Saratovskiy gosudarstvennyy universitet imeni N. G. Chernyshevskogo)

SUBMITTED: July 7, 1958

Card 2/2

40503

S/263/62/000/013/006/015

1007/1207

AUTHOR: Frontas'yev, V. P.

TITLE: Optical method for determining heat conductivity of liquids, and its application in physicochemical analysis. II

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk. 32. Izmeritel'naya tekhnika, no. 13, 1962, 45, abstract 32.13.327. (Nauchn. yezhegodnik Saratovsk. un-t. Fiz. fak. i N-i. in-t mekhan. i fiz., 1955, Saratov, 1960, 37-41)

TEXT: The optical method described is as follows: a thin layer of the liquid to be tested is placed between the horizontal parallel surfaces of the heating and cooling devices. The temperature drop in the liquid layer is determined according to the deviation angle φ of a monochromatic light beam passing through the liquid parallel to its confining surfaces. The amount of heat transmitted through the liquid layer from the heating to the cooling device is found by measuring the temperature difference of water at the inlet and outlet of the cooler and by determining simultaneously the amount of liquid transported by convective currents per unit time. The heat conductivity of the liquid tested is then determined from the temperature gradient and the amount of heat. The use of a device for determining heat conductivity is described. The liquid is placed in a cuvette whose bottom serves as the surface of the well of a calorimeter which consists of a

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Optical method for determining...

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1007/1207

brass tubular container divided into compartments by baffles and furnished with ebonite water inlet and outlet fittings. At its lateral surface the container is equipped with a mica ring. The metal housing of the device contains the cooler and the brass tubular heater and consists of two halves rigidly fastened by screws. Openings in the housing, covered by translucent mica plates, provide the entrance and exit for the light beam passing through the liquid layer in the tray. This arrangement ensures a hermetical enclosure of the liquid within the device. The parallel working surfaces of the heater and cooler are 1.2 to 2 mm apart. Both the heater and the calorimeter are thermally insulated and fed by a Wobser thermostat. The temperature gradient between the calorimeter inlet and outlet is measured by a differential thermopile built up of 10 copper-constantan couples connected to a H-21 (N-21) galvanometer. The mass of water flowing per unit time is determined by weighing. The optical device for measuring the deviation angle φ consists of an illuminator and a reading device with a reading accuracy up to $10''$. The measurement accuracy of the device described may be seen from the following data obtained for reference liquids (carefully purified water and toluene) at 20°C . The coefficient of thermal conductivity for water is 0.001425 ± 0.000006 , i.e., an accuracy of $\pm 0.4\%$; for toluene: 0.000326 ± 0.000001 , i.e., an accuracy of 0.3% . There are 2 figures and 3 references

[Abstracter's note: Complete translation.]

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B177/B138

AUTHORS: Frontas'yev, V. P., Gusakov, M. Ya.
TITLE: New data on the thermal conductivity of 22 organic liquids
PERIODICAL: Referativnyy zhurnal. Khimiya, no. 9, 1962, 44,
abstract 9B278 (Uch. zap. Saratovsk. un-t., y. 69, 1960,
237-238)

TEXT: The thermal conductivity λ of a number of liquids was measured with an accuracy of 5% using apparatus previously described (RZhKhim., no. 6, 1957, 18491). The value of $\lambda \cdot 10^6$ (in cal/cm·sec·deg) was found to be: for benzene 347, toluene 325, o-xylene 318, m-xylene 314-319, chlorobenzene 305, bromobenzene 272, nitrobenzene 360, aniline 406, carbon tetrachloride 253, dichloroethane 331, cyclohexanone 333, ethyl alcohol 382, dioxane 368, acetone 386, acetic acid 379, n-hexane 299, n-heptane 310, n-octane 319, isooctane 244 and n-nonane 329. [Abstracter's note: Complete translation.]

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